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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,523	07/20/2000	Bruce E. Novich	1596C5	2899

7590 11/19/2003

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EXAMINER

GRAY, JILL M

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/620,523

Applicant(s)

NOVICH ET AL.

Examiner

Jill M. Gray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 4,6-11,21-39 and 48-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,12-20 and 40-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Amendment

The rejection of claims 1, 18, 40 and 47 under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication 3-115,332, Kato, in view of Japanese Patent Publication 1-249333 Nagamine, is withdrawn.

The rejection of claims 2-3, 5, 12-17, 19-20, and 41-46 under 35 U.S.C. 103(a) as being unpatentable over Kato, 3-115,332 in view of Nagamine 1-249333, further in view of Russian Patent Publication 2072121, Adolfovna is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 18, 40 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Publication 1-249333 (hereinafter Nagamine).

Nagamine teaches a laminate adapted for an electronic support and an electronic support wherein the laminate comprises a glass cloth impregnated with a resin (page 1). In addition, Nagamine teaches that the glass cloth is formed from sized filaments that have been formed into yarns and subsequently woven into cloths wherein the glass cloth still has the sizing agent adhered thereto. Nagamine teaches that in cases where the sizing agent causes a problem in the adhesion with the resin, the glass cloth can be degreased. See page 3. Moreover, Nagamine teaches that the sizing

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agent used for the glass yarns include a recently developed non-desizing sizing agent that does not require degreasing or surface treatment and thereby eliminates degreasing and improving productivity and production yield. See page 10.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made produce a laminate and electronic support comprising a matrix material and a fabric comprising at least one strand comprising a plurality of fibers. While the examples set forth in Nagamine utilize a glass cloth that has been degreased, the prior art reference is not limited solely to that which is taught in its' preferred embodiments, rather, all that the prior art reference would have reasonably imparted to one of ordinary skill in the art at the time the invention was made. In the instant case, the teachings of Nagamine would have provided direction to the skilled artisan to use as the fabric, a fabric that is sized with a sizing agent that does not required degreasing, or more specifically, a non-degreased fabric, with the reasonable expectation of improving economic aspects of the production process and improving production yield. Regarding claims 18 and 47, it is the examiner's position that where the general conditions of a claim are discovered in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.

As a result, the prior art teachings of Nagamine would have rendered obvious the invention as claimed in claims 1, 18, 40 and 47.

Claims 2-3, 5, 12-17, 19-20, and 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagamine, 1-249333 as applied above to claims 1, 18, 40, and 47, in view of Russian Patent Publication 2072121 (hereinafter Adolfovna).

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Nagamine is as applied above but does not teach the incorporation of particles. Adolfovna teaches substrates for circuit boards comprising fabric sheets impregnated with a polymer binder comprising boron nitride powder (page 1), as required by claims 3, 5, 17, 41, 42, 43, and 46. In addition, Adolfovna teaches that the binder can be epoxy binder and that the powder has a particles size of 0.5-20m (page 1) as required by claims 15 and 44. Regarding the thermal conductivity and Moh's hardness of claims 12-13, Adolfovna teaches the same type of particles contemplated by applicants, accordingly, these properties are inherent because the same particles necessarily have the same properties. As to claims 19-20, Nagamine teaches the incorporation of resin reactive diluents in his coating composition. See page 17. Regarding claims 16 and 45, it would have been an obvious variant to include an additional lubricious material to minimize abrasion during processing. The substrates of Adolfovna have increased heat resistance and improved thermophysical and dielectric properties, which would have provided motivation the skilled artisan to modify the laminates of Nagamine by incorporating a boron nitride powder.

Therefore, the combined teachings of Nagamine and Adolfovna would have rendered obvious the invention as claimed in claims 2-3, 5, 12-17, 19-20, and 41-46.

Response to Arguments

Applicant's arguments with respect to claims 1-3, 5, 12-20, and 40-47 have been considered but are moot in view of the new ground(s) of rejection.

No claims are allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill M. Gray whose telephone number is 703.308.2381. The examiner can normally be reached on M-F 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 703.308.0449. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0651.



Jill M. Gray
Examiner
Art Unit 1774

jmg